

04/2004

=> fil reg
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STRUCTURE FILE UPDATES: 20 JAN 2003 HIGHEST RN 479577-81-6
DICTIONARY FILE UPDATES: 20 JAN 2003 HIGHEST RN 479577-81-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d sqide can tot l41

L41 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 473743-92-9 REGISTRY
CN Phosphatase, protein phosphoserine/phosphothreonine, ILKAP (human clone
C1) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2: PN: US20020156003 FIGURE: 1 claimed protein
FS PROTEIN SEQUENCE
SQL 392

SEQ 1 MDLFGDLPEP ERSRPAAGK EAQKGPLLFD DLPPASSTDG GSGGPLLFDD
51 LPPASSGDSG SLATISIQMV KTEGKGAKRK TSEEKNGSE ELVEKKVCKA
101 SSVIFGLKGY VAERKGEREE MQDAHVILND ITEECRPPSS LITRVSYFAV
151 FDGHGGIRAS KFAAQNLHQN LIRKFPKGDV ISVEKTVKRC LLDTFKHTDE
201 EFLKQASSQK PAWKDSTAT CVLAVDNILY IANLGDSRAI LCRYNEESQK
251 HAALSLSKEH NPTQYEERM IQKAGGNVRD GRVLGVLEVS RSIGDGQYKR
301 CGVTSVPDIR RCQLTPNDRF ILLACDGLFK VFTPEEAVNF ILSCLEDEKI
351 QTREGKSAAD ARYEACNRL ANKAVQGRSA DNVTVMVVRI GH

RELATED SEQUENCES AVAILABLE WITH SEQLINK

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:321374

L41 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 473743-91-8 REGISTRY
CN DNA (human clone C1 protein phosphatase ILKAP (integrin-linked
kinase-associated serine/threonine phosphatase 2C) cDNA plus flanks) (9CI)
(CA INDEX NAME)
OTHER NAMES:
CN 1: PN: US20020156003 FIGURE: 1 claimed DNA
FS NUCLEIC ACID SEQUENCE
SQL 1422

NA 344 a 355 c 403 g 320 t

```

SEQ      1 ggcaccaggc ccgctgctgc cgcccgcgcc ggggtgtggag cccggccgct
      51 gctcgcgggc tgagtgtctg tcgctgctgc cgcctccacc cagcctccgc
     101 catggacctc ttcggggacc tgccggagcc cgagcgctcg ccgcgcccgg
     151 ctgcccggaa agaagctcag aaaggacccc tgctctttga tgaectccct
     201 ccggccagca gtactgactc aggatcaggg ggacctttgc tttttgatga
     251 tctcccacc gctagcagtg gcgattcagg ttctcttgcc acatcaatat
     301 cccagatggt aaagactgaa gggaaaggag caaagagaaa aacctccgag
     351 gaagagaaga atggcagtga agagcttgtg gaaaagaaag tttgtaaagc
     401 ctcttcggtg atctttggtc tgaagggtta tgtggctgag cggaagggtg
     451 agagggagga gatgcaggat gccacgtca tcctgaacga catcaccgag
     501 gagtgtaggc ccccatcgtc cctcattact cgggtttcat attttgctgt
     551 ttttgatgga catggaggaa ttcgagcctc aaaatttgct gcacagaatt
     601 tgcatacaaaa cttaatcaga aaatttccta aaggagatgt aatcagtgtg
     651 gagaaaaccg tgaagagatg ccttttgtag actttcaagc atactgatga
     701 agagttcctt aaacaagctt ccagccagaa gcctgcctgg aaagatgggt
     751 ccactgccac gtctgttctg gctgtagaca acattcttta tattgccaac
     801 ctcgacata gtcgggcaat cttgtgtcgt tataatgagg agagtcaaaa
     851 acatgcagcc ttaagcctca gcaaagagca taatccaact cagtatcaag
     901 agccgatcag aatacagaag gctggaggaa acgtcaggga tgggcgtgtt
     951 ttgggcgtgc tagaggtgtc acgtccatt ggggacgggc agtacaagcg
    1001 ctgcggtgtc acctctgtgc ccacatcag acgtgccag ctgaccccca
    1051 atgacagggt cattttgttg gcctgtgatg ggctcttcaa ggtctttacc
    1101 ccagaagaag ccgtgaactt catcttgtcc tgtctcgagg atgaaaagat
    1151 ccagacccgg gaagggaagt ccgcagccga cgcgcgtac gaagcagcct
    1201 gcaacagggt ggccaacaag gcggtgcagc ggggctcggc cgacaacgtc
    1251 actgtgatgg tgggtcggat agggcactga ggggtggcgc gcggccagga
    1301 gcacgcatgg tattgactta aaaggttcat tttgtgtgtg tgcacattgt
    1351 gtgttttgtg tactcctgtg ggactcccat ggttgtaaata aaaggtttct
    1401 cttttttttc ctaaaaaaaa aa

```

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:321374

L41 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2003 ACS

RN 367924-80-9 REGISTRY

CN Phosphatase, protein phosphoserine/phosphothreonine, ILKAP (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Integrin-linked kinase-assocd. serine/threonine phosphatase 2C

CN Protein phosphatase ILKAP

MF Unspecified

CI MAN

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

2 REFERENCES IN FILE CA (1962 TO DATE)

2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:321374

REFERENCE 2: 135:328611

L41 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2003 ACS

RN 173585-04-1 REGISTRY

CN Kinase (phosphorylating), protein p59ILK (9CI) (CA INDEX NAME)

OTHER NAMES:

CN .beta.1-Integrin-assocd. kinase
CN .beta.1-Integrin-linked protein kinase
CN Integrin-linked kinase
CN p59ILK Serine/threonine protein kinase
CN Protein kinase ILK
CN Protein p59ILK kinase
MF Unspecified
CI MAN
SR CA
LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, CIN, TOXCENTER, USPAT2,
USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

98 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
99 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:20443
REFERENCE 2: 138:11409
REFERENCE 3: 138:319
REFERENCE 4: 137:365370
REFERENCE 5: 137:346244
REFERENCE 6: 137:323482
REFERENCE 7: 137:322993
REFERENCE 8: 137:304771
REFERENCE 9: 137:292146
REFERENCE 10: 137:241573

=> d his

(FILE 'HOME' ENTERED AT 07:33:53 ON 21 JAN 2003)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 07:34:21 ON 21 JAN 2003
E PHOSPHATASE/CN
L1 1 S E3
L2 11938 S PHOSPHATASE
L3 1 S L1 AND L2
L4 11937 S L2 NOT L3
E ILKAP
L5 5 S E3
L6 1 S 473743-92-9
L7 1 S L5 AND L6
L8 4 S L5 NOT L7

FILE 'HCAPLUS' ENTERED AT 07:35:59 ON 21 JAN 2003
L9 1 S L7

FILE 'REGISTRY' ENTERED AT 07:36:57 ON 21 JAN 2003
L10 1 S 473743-91-8
L11 1 S 367924-80-9

FILE 'HCAPLUS' ENTERED AT 07:37:17 ON 21 JAN 2003

L12 1 S L10
L13 2 S L11
L14 2 S L9,L12,L13
E ILKAP
L15 2 S E3
L16 15 S INTEGRIN(L) LINK?(L)?KINASE?(L) ASSOC?(L)?PHOSPHATASE?
L17 8 S L16 (L) SERIN?(L) THREON?
L18 7 S L16 NOT L17
L19 2 S L14,L15
L20 2 S L19 AND L17
L21 6 S L17 NOT L20
L22 4 S L16 AND ILK
L23 5 S L16 AND INTEGRIN LINK? ?KINASE?
L24 5 S L22,L23
L25 2 S L20 AND L24
L26 5 S ILK? AND L12-L25

FILE 'REGISTRY' ENTERED AT 07:46:43 ON 21 JAN 2003

L27 1 S 173585-04-1

FILE 'HCAPLUS' ENTERED AT 07:46:55 ON 21 JAN 2003

L28 99 S L27
L29 3 S L28 AND L12-L26
L30 5 S L24-L26,L29
SEL DN AN L30 1 3 5
L31 2 S L30 NOT E1-E5
E LORENS J/AU
L32 29 S E4-E6
E XU W/AU
L33 423 S E3-E22
E XU WEI/AU
L34 465 S E3
E XU WEIDUAN/AU
L35 6 S E3
E ATCHISON R/AU
L36 16 S E3,E4,E9-E10
E BOGENBERGER J/AU
L37 27 S E3-E8
E RIGEL/PA,CS
L38 91 S E3-E19
L39 1 S L32-L38 AND L9,L12-L26,L28-L31
L40 2 S L31,L39
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 07:50:51 ON 21 JAN 2003

L41 4 S E1-E4

FILE 'BIOSIS' ENTERED AT 07:51:00 ON 21 JAN 2003

L42 0 S L7 OR L10
L43 125 S L27
E ILKAP
L44 2 S E3
E ILK
L45 8 S L17
SEL DN AN 4
L46 1 S L45 AND E1-E2
L47 2 S L44,L46
L48 6 S ILK?(L) ASSOC?(L)?PHOSPHATASE?
L49 2 S L47 AND L48
L50 4 S L43 AND L48
L51 2 S L49,L47
L52 4 S L50 NOT L51

L53 2 S L51 AND L42-L52
E LORENS J/AU
L54 34 S E3-E6
E XU W/AU
L55 406 S E3-E22
E XU WEI/AU
L56 107 S E3
L57 7 S E34
E ATCHISON R/AU
L58 28 S E3,E5,E9-E11
E BOGENBERGER J/AU
L59 35 S E3-E7
L60 0 S L43-L53 AND L54-L59

FILE 'MEDLINE' ENTERED AT 07:57:37 ON 21 JAN 2003

L61 0 S L7 OR L10
E ILKAP
L62 1 S E3
L63 98 S INTEGRIN? LINK? ?KINASE?
L64 28 S L63 (L) SERIN?(L)THREON?
L65 6 S L64 (L) ?PHOSPHATASE?
SEL DN AN 4 5 6
L66 3 S E1-E9 AND L65
L67 3 S L62,L66

FILE 'WPIX' ENTERED AT 08:00:13 ON 21 JAN 2003

E ILKAP
L68 0 S L65

FILE 'BIOTECHDS' ENTERED AT 08:00:39 ON 21 JAN 2003

E ILKAP
L69 0 S INTEGRIN?(L)LINK?(L)KINASE?(L)PHOSPHATASE(L)SERIN?(L)THREON?

FILE 'REGISTRY' ENTERED AT 08:01:47 ON 21 JAN 2003

=> fil hcaplus

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FILE COVERS 1907 - 21 Jan 2003 VOL 138 ISS 4
FILE LAST UPDATED: 20 Jan 2003 (20030120/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L40 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:814830 HCAPLUS

DN 137:321374
 TI Use of **integrin-linked kinase** associated
 protein in regulation of angiogenesis
 IN Lorens, James B.; Xu, Weiduan; Atchison, Robert
 E.; Bogenberger, Jakob
 PA Rigel Pharmaceuticals, Inc., USA
 SO U.S. Pat. Appl. Publ., 20 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12Q001-68
 ICS G01N033-53; A61K039-395; G01N033-567; A61K038-17
 NCL 514012000
 CC 3-3 (Biochemical Genetics)
 Section cross-reference(s): 1, 7, 13, 14
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002156003	A1	20021024	US 2001-935124	20010821
	WO 2002085289	A2	20021031	WO 2002-US12341	20020418
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2001-284760P	P	20010418		
	US 2001-935124	A	20010821		
AB	The present invention relates to regulation of angiogenesis. More particularly, the present invention is directed to nucleic acids encoding C1-angiogenesis protein, also called integrin-linked kinase-assocd. serine/threonine phosphatase 2C ("ILKAP") and ILKAP protein, which is involved in modulation of angiogenesis. The invention further relates to methods for identifying and using agents, including small org. mols., antibodies, peptides, cyclic peptides, nucleic acids, antisense nucleic acids, and ribozymes, that modulate angiogenesis via modulation of ILKAP and ILKAP -related cascades; as well as to the use of expression profiles and compns. in diagnosis and therapy of angiogenesis.				
ST	integrin linked kinase assocd serine threonine phosphatase 2C therapy; human cDNA sequence ILKAP ; ILKAP protein angiogenesis therapy				
IT	Angiogenic factors Growth inhibitors, animal RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (angiogenic growth-inhibiting factors, ILKAP as; use of integrin-linked kinase assocd. protein in regulation of angiogenesis)				
IT	Integrins RL: BSU (Biological study, unclassified); BIOL (Biological study) (avb3, ILKAP in regulation of; use of integrin-linked kinase assocd. protein in regulation of angiogenesis)				
IT	Ligands RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (binding to ILKAP ; use of integrin-linked kinase assocd. protein in regulation of angiogenesis)				

- IT Blood vessel
(endothelium, **ILKAP** synthesis in; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT cDNA sequences
(for **ILKAP** of human; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Drug screening
(for **ILKAP** protein effectors; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Peptides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(for **ILKAP** protein; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Gene therapy
(for angiogenesis-related disorders; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT cDNA
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(for **integrin-linked kinase** assocd. protein; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Chemotaxis
(haptotaxis, **ILKAP** in regulation of endothelial cell; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monoclonal, to **ILKAP** protein; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Molecular cloning
(of **ILKAP** cDNA; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Protein sequences
(of **ILKAP** of human; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Human
(regulation of angiogenesis in; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Organic compounds, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(small, binding to **ILKAP** protein; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Probes (nucleic acid)
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(to **ILKAP** cDNA; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Antisense DNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(to **ILKAP** cDNA; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(to **ILKAP** protein; use of **integrin-linked kinase** assocd. protein in regulation of angiogenesis)
- IT Angiogenesis

- Nucleic acid hybridization
(use of **integrin-linked kinase** assocd.
protein in regulation of angiogenesis)
- IT **473743-92-9**
RL: BSU (Biological study, unclassified); PRP (Properties); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; use of **integrin-linked
kinase** assocd. protein in regulation of angiogenesis)
- IT **473743-91-8**
RL: BSU (Biological study, unclassified); PRP (Properties); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; use of **integrin-linked
kinase** assocd. protein in regulation of angiogenesis)
- IT **367924-80-9, Integrin-linked kinase-
assocd. serine/threonine phosphatase
2C**
RL: BSU (Biological study, unclassified); PRP (Properties); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)
(use of **integrin-linked kinase
assocd. protein in regulation of angiogenesis**)
- L40 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:379396. HCAPLUS
DN 135:328611
TI Modulation of **integrin** signal transduction by **ILKAP**, a
protein **phosphatase 2C** associating with the
integrin-linked kinase, ILK1
AU Leung-Hagesteijn, Chungyee; Mahendra, Ahalya; Naruszewicz, Izabela;
Hannigan, Gregory E.
CS Programme in Cell Biology, Research Institute, Hospital for Sick Children,
Toronto, ON, M5G 1X8, Can.
SO EMBO Journal (2001), 20(9), 2160-2170
CODEN: EMJODG; ISSN: 0261-4189
PB Oxford University Press
DT Journal
LA English
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 13
AB **ILKAP**, a protein **serine/threonine (S/T)
phosphatase** of the PP2C family, was isolated in a yeast two-hybrid
screen baited with **integrin-linked kinase,
ILK1**. Assocn. of **ILK1** and **ILKAP** was
independent of the catalytic activity of either partner, as assayed in
co-pptn. and two-hybrid expts. Conditional expression of **ILKAP**
in HEK 293 cells resulted in selective inhibition of ECM- and growth
factor-stimulated **ILK1** activity, but did not inhibit Raf-1
kinase activity. A catalytic mutant of **ILKAP**, H154D,
did not inhibit **ILK1 kinase** activity. Two cellular
targets of **ILK1**, glycogen synthase **kinase 3 .beta.**
(GSK3.beta.) and protein **kinase B (PKB)/AKT**, were differentially
affected by **ILKAP**-mediated inhibition of **ILK1**.
Catalytically active, but not mutant **ILKAP**, strongly inhibited
insulin-like growth factor-1-stimulated GSK3.beta. phosphorylation on
Ser9, but did not affect phosphorylation of PKB on Ser473, suggesting that
ILKAP selectively affects **ILK**-mediated GSK3.beta.
signaling. Consistent with this, active, but not H154D mutant or the
related PP2C.alpha., selectively inhibited transactivation of a Tcf/Lef
reporter gene, TOPFlash, in 293 cells. We propose that **ILKAP**
regulates **ILK1** activity, targeting **ILK1** signaling of
Wnt pathway components via modulation of GSK3.beta. phosphorylation.
- ST **integrin linked kinase assocd
protein phosphatase 2C ILKAP; ILKAP** human
cDNA sequence

- IT Molecular **association**
 Protein sequences
 Signal transduction, biological
 cDNA sequences
 (cloning, sequence and signal transduction properties of **ILKAP**
 , a protein **phosphatase 2C assocg.** with
integrin-linked kinase, ILK1)
- IT 301802-70-0
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
 (amino acid sequence; cloning, sequence and signal transduction properties of **ILKAP**, a protein **phosphatase 2C assocg.** with **integrin-linked kinase**
 , **ILK1)**
- IT 367924-80-9, **Integrin-linked kinase-
 assocd. serine/threonine phosphatase 2C**
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
 (cloning, sequence and signal transduction properties of **ILKAP**
 , a protein **phosphatase 2C assocg.** with
integrin-linked kinase, ILK1)
- IT 173585-04-1, **Integrin-linked kinase**
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (cloning, sequence and signal transduction properties of **ILKAP**
 , a protein **phosphatase 2C assocg.** with
integrin-linked kinase, ILK1)
- IT 328895-62-1, GenBank AY024365
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (nucleotide sequence; cloning, sequence and signal transduction properties of **ILKAP**, a protein **phosphatase 2C assocg.** with **integrin-linked kinase**
 , **ILK1)**

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

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- (30) Tong, Y; J Biol Chem 1998, V273, P35282 HCAPLUS
- (31) Wera, S; Biochem J 1995, V311, P17 HCAPLUS
- (32) Wu, C; J Biol Chem 1998, V273, P528 HCAPLUS
- (33) Zimmermann, S; Science 1999, V286, P1741 HCAPLUS

=> fil biosis

FILE 'BIOSIS' ENTERED AT 08:02:36 ON 21 JAN 2003
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FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT
 FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 15 January 2003 (20030115/ED)

=> d 153 all tot

L53 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 AN 2002:165411 BIOSIS
 DN PREV200200165411
 TI Modulation of integrin signal transduction by **ILKAP**, an
ILK-associated protein **phosphatase** 2C.
 AU Hannigan, Greg E. (1); Mahendra, Ahalya (1); Leung-Hagsteijn, Chungyee
 (1); Naruszewicz, Izabela (1); Wang, Ping (1)
 CS (1) Cell Biology Program, Hospital for Sick Children, 555 University Ave,
 Toronto, ON, M5G 1X8 Canada
 SO Molecular Biology of the Cell, (Nov, 2001) Vol. 12, No. Supplement, pp.
 323a. <http://www.molbiolcell.org/>. print.
 Meeting Info.: 41st Annual Meeting of the American Society for Cell
 Biology Washington DC, USA December 08-12, 2001
 ISSN: 1059-1524.
 DT Conference
 LA English
 CC General Biology - Symposia, Transactions and Proceedings of Conferences,
 Congresses, Review Annuals *00520
 Cytology and Cytochemistry - General *02502
 Cytology and Cytochemistry - Animal *02506
 Cytology and Cytochemistry - Human *02508
 Biochemical Studies - Proteins, Peptides and Amino Acids *10064
 Enzymes - General and Comparative Studies; Coenzymes *10802
 Endocrine System - General *17002
 BC Hominidae 86215
 Muridae 86375
 IT Major Concepts
 Cell Biology; Enzymology (Biochemistry and Molecular Biophysics)
 IT Parts, Structures, & Systems of Organisms
 extracellular matrix [ECM]
 IT Chemicals & Biochemicals
 GSK3-beta [glycogen synthase kinase 3-beta]: phosphorylation; IGF-1
 [insulin-like growth factor-1]: phosphorylation; **ILKAP**
 [integrin-linked kinase **associated** protein]; PKB [protein
 kinase B]; PP2C-alpha [protein **phosphatase** 2C-alpha];
 Tcf/Lef-1 factors: activation; integrin; interferon; intergrin-linked
 kinase 1 [**ILK1**]; **phosphatase** 2C; red fluorescent
 fusion protein; serine-473; serine-9
 IT Methods & Equipment

co-precipitation experiment: experimental method, separation method;
 yeast two-hybrid screen: screening method

IT Miscellaneous Descriptors
 ISRE-dependent transcription; Wnt pathway; signal transduction:
 modulation; Meeting Abstract

ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; Muridae:
 Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
 HEK 293 cell line (Hominidae): human embryonic kidney cells; L6 cell
 line (Muridae): rat myoblast cells; rat (Muridae)

ORGN Organism Superterms
 Animals; Chordates; Humans; Mammals; Nonhuman Mammals; Nonhuman
 Vertebrates; Primates; Rodents; Vertebrates

RN 67763-96-6 (INSULIN-LIKE GROWTH FACTOR-1)
 148640-14-6 (PROTEIN KINASE B)
 153-87-7Q (INTEGRIN)
 60791-49-3Q (INTEGRIN)

L53 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 AN 2001:313654 BIOSIS
 DN PREV200100313654
 TI Modulation of integrin signal transduction by **ILKAP**, a protein
phosphatase 2C associating with the integrin-linked
 kinase, **ILK1**.

AU Leung-Hagesteijn, Chungyee; Mahendra, Ahalya; Naruszewicz, Izabela;
 Hannigan, Gregory E. (1)

CS (1) Programme in Cell Biology, Research Institute, Hospital for Sick
 Children, 555 University Avenue, Toronto, ON, M5G 1X8:
 hannigan@sickkids.on.ca Canada

SO EMBO (European Molecular Biology Organization) Journal, (May 1, 2001) Vol.
 20, No. 9, pp. 2160-2170. print.
 ISSN: 0261-4189.

DT Article
 LA English
 SL English
 AB **ILKAP**, a protein **serine/threonine (S/T)**
phosphatase of the PP2C family, was isolated in a yeast two-hybrid
 screen baited with **integrin-linked kinase**,
ILK1. Association of **ILK1** and **ILKAP**
 was independent of the catalytic activity of either partner, as assayed in
 co-precipitation and two-hybrid experiments. Conditional expression of
ILKAP in HEK 293 cells resulted in selective inhibition of ECM-
 and growth factor-stimulated **ILK1** activity, but did not inhibit
 Raf-1 **kinase** activity. A catalytic mutant of **ILKAP**,
 H154D, did not inhibit **ILK1 kinase** activity. Two
 cellular targets of **ILK1**, glycogen synthase **kinase 3**
 beta (GSK3beta) and protein **kinase B (PKB)/AKT**, were
 differentially affected by **ILKAP**-mediated inhibition of
ILK1. Catalytically active, but not mutant **ILKAP**,
 strongly inhibited insulin-like growth factor-1-stimulated GSK3beta
 phosphorylation on Ser9, but did not affect phosphorylation of PKB on
 Ser473, suggesting that **ILKAP** selectively affects **ILK**
 -mediated GSK3beta signalling. Consistent with this, active, but not H154D
 mutant or the related PP2Calpha, selectively inhibited transactivation of
 a Tcf/Lef reporter gene, TOPFlash, in 293 cells. We propose that
ILKAP regulates **ILK1** activity, targeting **ILK1**
 signalling of Wnt pathway components via modulation of GSK3beta
 phosphorylation.

CC Cytology and Cytochemistry - General *02502
 Cytology and Cytochemistry - Human *02508
 Genetics and Cytogenetics - Human *03508
 Biochemical Studies - Proteins, Peptides and Amino Acids *10064

Enzymes - General and Comparative Studies; Coenzymes *10802
 Endocrine System - General *17002
 BC Hominidae 86215
 IT Major Concepts
 Enzymology (Biochemistry and Molecular Biophysics); Cell Biology
 IT Parts, Structures, & Systems of Organisms
 cell
 IT Chemicals & Biochemicals
 Wnt; glycogen synthase kinase-3-beta; insulin-like growth factor-1;
 integrin-linked kinase-1; integrin-linked kinase-1-associated
 phosphatase: protein phosphatase 2C; protein kinase B
 IT Methods & Equipment
 yeast two-hybrid screening: purification method
 IT Miscellaneous Descriptors
 signal transduction
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 293 cell line (Hominidae)
 ORGN Organism Superterms
 Animals; Chordates; Humans; Mammals; Primates; Vertebrates
 RN 67763-96-6 (INSULIN-LIKE GROWTH FACTOR-1)
 148640-14-6 (PROTEIN KINASE B)
 GEN TOPFlash gene: reporter gene

=> fil medline

FILE 'MEDLINE' ENTERED AT 08:02:43 ON 21 JAN 2003

FILE LAST UPDATED: 18 JAN 2003 (20030118/UP). FILE COVERS 1958 TO DATE.

On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2003 vocabulary. See <http://www.nlm.nih.gov/mesh/summ2003.html> for a description on changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all tot 167

L67 ANSWER 1 OF 3 MEDLINE
 AN 2001272332 MEDLINE
 DN 21231163 PubMed ID: 11331582
 TI Modulation of integrin signal transduction by ILKAP, a protein phosphatase 2C associating with the integrin-linked kinase, ILK1.
 AU Leung-Hagesteijn C; Mahendra A; Naruszewicz I; Hannigan G E
 CS Programme in Cell Biology, Research Institute, Hospital for Sick Children, 555 University Avenue, Toronto, ON, M5G 1X8, Canada.
 SO EMBO JOURNAL, (2001 May 1) 20 (9) 2160-70.
 Journal code: 8208664. ISSN: 0261-4189.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 OS GENBANK-AY024365
 EM 200105
 ED Entered STN: 20010604
 Last Updated on STN: 20021218
 Entered Medline: 20010531
 AB ILKAP, a protein **serine/threonine** (S/T) phosphatase of the PP2C family, was isolated in a yeast two-hybrid

screen baited with **integrin-linked kinase**, ILK1. Association of ILK1 and **ILKAP** was independent of the catalytic activity of either partner, as assayed in co-precipitation and two-hybrid experiments. Conditional expression of **ILKAP** in HEK 293 cells resulted in selective inhibition of ECM- and growth factor-stimulated ILK1 activity, but did not inhibit Raf-1 kinase activity. A catalytic mutant of **ILKAP**, H154D, did not inhibit ILK1 kinase activity. Two cellular targets of ILK1, glycogen synthase kinase 3 beta (GSK3beta) and protein kinase B (PKB)/AKT, were differentially affected by **ILKAP**-mediated inhibition of ILK1. Catalytically active, but not mutant **ILKAP**, strongly inhibited insulin-like growth factor-1-stimulated GSK3beta phosphorylation on Ser9, but did not affect phosphorylation of PKB on Ser473, suggesting that **ILKAP** selectively affects ILK-mediated GSK3beta signalling. Consistent with this, active, but not H154D mutant or the related PP2Calpha, selectively inhibited transactivation of a Tcf/Lef reporter gene, TOPFlash, in 293 cells. We propose that **ILKAP** regulates ILK1 activity, targeting ILK1 signalling of Wnt pathway components via modulation of GSK3beta phosphorylation.

CT Check Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.

Ca(2+)-Calmodulin Dependent Protein Kinase: ME, metabolism

Carrier Proteins: GE, genetics

*Carrier Proteins: ME, metabolism

Catalysis

Cell Line

Gene Expression

Genes, Reporter

Glycogen Synthase Kinase 3

Glycogen Synthase Kinases

Insulin-Like Growth Factor I: ME, metabolism

Insulin-Like Growth Factor I: PD, pharmacology

*Integrins: ME, metabolism

Isoenzymes: GE, genetics

Isoenzymes: ME, metabolism

Kidney: CY, cytology

Kidney: ME, metabolism

Molecular Sequence Data

Mutagenesis, Site-Directed

Phosphoprotein Phosphatase: GE, genetics

*Phosphoprotein Phosphatase: ME, metabolism

Phosphorylation: DE, drug effects

Protein-Serine-Threonine Kinases: AI, antagonists & inhibitors

*Protein-Serine-Threonine Kinases: ME, metabolism

Proto-Oncogene Proteins: ME, metabolism

Proto-Oncogene Proteins c-raf: ME, metabolism

Sequence Homology, Amino Acid

*Signal Transduction: PH, physiology

Trans-Activation (Genetics): DE, drug effects

Transfection

Two-Hybrid System Techniques

RN 67763-96-6 (Insulin-Like Growth Factor I)

CN 0 (Carrier Proteins); 0 (IKAP protein); 0 (Integrins); 0 (Isoenzymes); 0 (Proto-Oncogene Proteins); 0 (proto-oncogene protein akt); EC 2.7.1.- (integrin-linked kinase); EC 2.7.1.123 (Ca(2+)-Calmodulin Dependent Protein Kinase); EC 2.7.1.37 (Glycogen Synthase Kinase 3); EC 2.7.1.37 (Glycogen Synthase Kinases); EC 2.7.1.37 (Protein-Serine-Threonine Kinases); EC 2.7.1.37 (Proto-Oncogene Proteins c-raf); EC 3.1.3.- (protein phosphatase 2C); EC 3.1.3.16 (Phosphoprotein Phosphatase)

L67 ANSWER 2 OF 3 MEDLINE

AN 2001013612 MEDLINE

DN 20464902 PubMed ID: 11007949

TI Integrin-linked kinase (ILK): a "hot" therapeutic target.
 AU Yoganathan T N; Costello P; Chen X; Jabali M; Yan J; Leung D; Zhang Z; Yee A; Dedhar S; Sanghera J
 CS Kinetek Pharmaceuticals Inc., Vancouver, BC V6P6P2, Canada..
 nathan@kinetekpharm.com
 SO BIOCHEMICAL PHARMACOLOGY, (2000 Oct 15) 60 (8) 1115-9. Ref: 26
 Journal code: 0101032. ISSN: 0006-2952.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LA English
 FS Priority Journals
 EM 200010
 ED Entered STN: 20010322
 Last Updated on STN: 20020420
 Entered Medline: 20001031
 AB Integrin-mediated cell adhesion is known to regulate gene expression through the activation of transcription factors. We have recently revealed that these activations are mediated through **integrin-linked kinase (ILK)**. ILK is an ankyrin repeat-containing **serine-threonine** protein kinase that can interact directly with the cytoplasmic domain of the beta1 and beta3 integrin subunits and whose kinase activity is modulated by cell-extracellular matrix interactions. We have shown that ILK overexpression results in the translocation of beta-catenin to the nucleus, which then forms a complex formation with the lymphoid enhancer binding factor 1 (LEF-1) transcription factor, subsequently activating the transcriptional activity of promoters containing LEF-1 response elements. ILK phosphorylates the glycogen synthase kinase-3 (GSK-3), which inhibits GSK-3 activity. We have demonstrated that ILK stimulates activator protein-1 transcriptional activity through GSK-3 and the subsequent regulation of the c-Jun-DNA interaction. ILK also phosphorylates protein kinase B (PKB/Akt) and stimulates its activity. We have shown that ILK is an upstream effector of the phosphatidylinositol 3-kinase-dependent regulation of PKB/Akt. ILK has been shown to phosphorylate PKB/Akt on Ser-473 in vitro and in vivo. Our results clearly indicate that ILK is a key element in the regulation of integrin signaling as well as growth factor and Wnt signaling pathways. PTEN (**phosphatase** and tensin homolog detected on chromosome 10) is a tumor suppressor gene located on chromosome 10q23 that encodes a protein and phospholipid **phosphatase**. It is now estimated that inactivation mutants of PTEN exist in 60% of all forms of solid tumors. Loss of expression or mutational inactivation of PTEN leads to the constitutive activation of PKB/Akt via enhanced phosphorylation of Thr-308 and Ser-473. We have demonstrated that the activity of ILK is constitutively elevated in PTEN mutant cells. A small molecule ILK inhibitor suppresses the phosphorylation of PKB at the Ser-473 but not the Thr-308 site in the PTEN mutant cells. These results indicate that inhibition of ILK may be of significant value in solid tumor therapy.
 CT Check Tags: Animal; Human
 Cell Movement: PH, physiology
 Cell Survival: DE, drug effects
 Cell Survival: PH, physiology
 Enzyme Activation
 Enzyme Inhibitors: PD, pharmacology
 *Integrins: PH, physiology
 Phosphoprotein Phosphatase: ME, metabolism
 Protein-Serine-Threonine Kinases: AI, antagonists & inhibitors
 *Protein-Serine-Threonine Kinases: ME, metabolism
 Protein-Serine-Threonine Kinases: PH, physiology
 *Signal Transduction: PH, physiology
 CN 0 (Enzyme Inhibitors); 0 (Integrins); EC 2.7.1.- (Protein-Serine-Threonine Kinases); EC 2.7.1.- (integrin-linked kinase); EC 3.1.3.16 (Phosphoprotein

Phosphatase)

L67 ANSWER 3 OF 3 MEDLINE
 AN 2000105777 MEDLINE
 DN 20105777 PubMed ID: 10637513
 TI Integrin-linked kinase regulates phosphorylation of serine 473 of protein kinase B by an indirect mechanism.
 AU Lynch D K; Ellis C A; Edwards P A; Hiles I D
 CS Department of Pathology, Cambridge University, Tennis Court Road, Cambridge CB2 1QP, UK.
 SO ONCOGENE, (1999 Dec 23) 18 (56) 8024-32.
 Journal code: 8711562. ISSN: 0950-9232.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 OS GENBANK-AJ249344; GENBANK-AJ249345
 EM 200002
 ED Entered STN: 20000218
 Last Updated on STN: 20020420
 Entered Medline: 20000204
 AB The **serine threonine** kinase protein kinase B regulates cellular activities as diverse as glycogen metabolism and apoptosis. Full activation of protein kinase B requires 3-phosphoinositides and dual phosphorylation on **threonine-308** and **serine-473**. CaM-K kinase and 3-phosphoinositide dependent-kinase-1 phosphorylate **threonine-308**. **Integrin-linked kinase** reportedly phosphorylates **serine-473**. Consistent with this, in a model COS cell system we show that expression of wild-type **integrin-linked kinase** promotes the wortmannin sensitive phosphorylation of **serine-473** of protein kinase B and its downstream substrates, and inhibits C2-ceramide induced apoptosis. In contrast, **integrin-linked kinase** mutated in a lysine residue critical for function in protein kinases is inactive in these experiments, and furthermore, acts dominantly to block **serine-473** phosphorylation induced by ErbB4. However, alignment of analogous sequences from different species demonstrates that **integrin-linked kinase** is not a typical protein kinase and identifies a conserved **serine** residue which potentially regulates kinase activity in a phosphorylation dependent manner. Mutation of this **serine** to aspartate or glutamate, but not alanine, in combination with the inactivating lysine mutation restores **integrin-linked kinase** dependent phosphorylation of **serine-473** of protein kinase B. These data strongly suggest that **integrin-linked kinase** does not possess **serine-473** kinase activity but functions as an adaptor to recruit a **serine-473** kinase or **phosphatase**.
 CT Check Tags: Animal; Human; Support, Non-U.S. Gov't
 Amino Acid Sequence
 COS Cells
 Caenorhabditis elegans
 Catalytic Domain
 Drosophila melanogaster
 Molecular Sequence Data
 Phosphatidylinositols: ME, metabolism
 Phosphorylation
 Phosphoserine: ME, metabolism
 *Protein-Serine-Threonine Kinases: CH, chemistry
 Protein-Serine-Threonine Kinases: GE, genetics
 *Protein-Serine-Threonine Kinases: ME, metabolism
 Proto-Oncogene Proteins: CH, chemistry
 *Proto-Oncogene Proteins: ME, metabolism
 Proto-Oncogene Proteins c-raf: CH, chemistry

Recombinant Proteins: CH, chemistry
 Recombinant Proteins: ME, metabolism
 Sequence Alignment
 Sequence Homology, Amino Acid
 Transfection
 RN 17885-08-4 (Phosphoserine)
 CN 0 (Phosphatidylinositols); 0 (Proto-Oncogene Proteins); 0 (Recombinant Proteins); 0 (proto-oncogene protein akt); EC 2.7.1.- (Protein-Serine-Threonine Kinases); EC 2.7.1.- (integrin-linked kinase); EC 2.7.1.37.- (Proto-Oncogene Proteins c-raf)

=> d his

(FILE 'HOME' ENTERED AT 07:33:53 ON 21 JAN 2003)
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 07:34:21 ON 21 JAN 2003
 E PHOSPHATASE/CN

L1 1 S E3
 L2 11938 S PHOSPHATASE
 L3 1 S L1 AND L2
 L4 11937 S L2 NOT L3
 E ILKAP
 L5 5 S E3
 L6 1 S 473743-92-9
 L7 1 S L5 AND L6
 L8 4 S L5 NOT L7

FILE 'HCAPLUS' ENTERED AT 07:35:59 ON 21 JAN 2003
 L9 1 S L7

FILE 'REGISTRY' ENTERED AT 07:36:57 ON 21 JAN 2003
 L10 1 S 473743-91-8
 L11 1 S 367924-80-9

FILE 'HCAPLUS' ENTERED AT 07:37:17 ON 21 JAN 2003
 L12 1 S L10
 L13 2 S L11
 L14 2 S L9,L12,L13
 E ILKAP
 L15 2 S E3
 L16 15 S INTEGRIN(L) LINK?(L) ?KINASE?(L) ASSOC?(L) ?PHOSPHATASE?
 L17 8 S L16 (L) SERIN?(L) THREON?
 L18 7 S L16 NOT L17
 L19 2 S L14,L15
 L20 2 S L19 AND L17
 L21 6 S L17 NOT L20
 L22 4 S L16 AND ILK
 L23 5 S L16 AND INTEGRIN LINK? ?KINASE?
 L24 5 S L22,L23
 L25 2 S L20 AND L24
 L26 5 S ILK? AND L12-L25

FILE 'REGISTRY' ENTERED AT 07:46:43 ON 21 JAN 2003
 L27 1 S 173585-04-1

FILE 'HCAPLUS' ENTERED AT 07:46:55 ON 21 JAN 2003
 L28 99 S L27
 L29 3 S L28 AND L12-L26
 L30 5 S L24-L26,L29
 SEL DN AN L30 1 3 5
 L31 2 S L30 NOT E1-E5

L32 E LORENS J/AU
 29 S E4-E6
 E XU W/AU
 L33 423 S E3-E22
 E XU WEI/AU
 L34 465 S E3
 E XU WEIDUAN/AU
 L35 6 S E3
 E ATCHISON R/AU
 L36 16 S E3,E4,E9-E10
 E BOGENBERGER J/AU
 L37 27 S E3-E8
 E RIGEL/PA,CS
 L38 91 S E3-E19
 L39 1 S L32-L38 AND L9,L12-L26,L28-L31
 L40 2 S L31,L39
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 07:50:51 ON 21 JAN 2003
 L41 4 S E1-E4

FILE 'BIOSIS' ENTERED AT 07:51:00 ON 21 JAN 2003
 L42 0 S L7 OR L10
 L43 125 S L27
 E ILKAP
 L44 2 S E3
 E ILK
 L45 8 S L17
 SEL DN AN 4
 L46 1 S L45 AND E1-E2
 L47 2 S L44,L46
 L48 6 S ILK?(L)ASSOC?(L)?PHOSPHATASE?
 L49 2 S L47 AND L48
 L50 4 S L43 AND L48
 L51 2 S L49,L47
 L52 4 S L50 NOT L51
 L53 2 S L51 AND L42-L52
 E LORENS J/AU
 L54 34 S E3-E6
 E XU W/AU
 L55 406 S E3-E22
 E XU WEI/AU
 L56 107 S E3
 L57 7 S E34
 E ATCHISON R/AU
 L58 28 S E3,E5,E9-E11
 E BOGENBERGER J/AU
 L59 35 S E3-E7
 L60 0 S L43-L53 AND L54-L59

FILE 'MEPLINE' ENTERED AT 07:57:37 ON 21 JAN 2003
 L61 0 S L7 OR L10
 E ILKAP
 L62 1 S E3
 L63 98 S INTEGRIN? LINK? ?KINASE?
 L64 28 S L63 (L) SERIN?(L)THREON?
 L65 6 S L64 (L) ?PHOSPHATASE?
 SEL DN AN 4 5 6
 L66 3 S E1-E9 AND L65
 L67 3 S L62,L66

FILE 'WPIX' ENTERED AT 08:00:13 ON 21 JAN 2003
 E ILKAP

L68 0 S L65
FILE 'BIOTECHDS' ENTERED AT 08:00:39 ON 21 JAN 2003
 E ILKAP
L69 0 S INTEGRIN?(L)LINK?(L)KINASE?(L)PHOSPHATASE(L)SERIN?(L)THREON?
FILE 'REGISTRY' ENTERED AT 08:01:47 ON 21 JAN 2003
FILE 'HCAPLUS' ENTERED AT 08:02:01 ON 21 JAN 2003
FILE 'BIOSIS' ENTERED AT 08:02:36 ON 21 JAN 2003
FILE 'MEDLINE' ENTERED AT 08:02:43 ON 21 JAN 2003
FILE 'WPIX' ENTERED AT 08:02:56 ON 21 JAN 2003
FILE 'BIOTECHDS' ENTERED AT 08:03:40 ON 21 JAN 2003
FILE 'WPIX' ENTERED AT 08:03:41 ON 21 JAN 2003
 E US2001-284760/AP,PRN
 E WO2002085289/PN
 E LORENS J/AU
L70 4 S E3
 E ATCHISON R/AU
L71 1 S E4
 E BOGENBERGER J/AU
L72 3 S E4
 E XU W/AU
L73 390 S E3-E6
 E RIGEL/PA
L74 59 S E3-E17
L75 5 S L70-L73 AND L74
L76 8 S L70,L71,L72
L77 0 S L76 AND L73
L78 8 S L76,L75
L79 0 S L78 AND (ILK? OR INTEGRIN?)
L80 0 S L70-L74 AND ILK?
L81 2 S L70-L74 AND INTEGRIN
L82 3 S L70-L74 AND ?PHOSPHATASE?
L83 5 S L81,L82